CONTROVERSES ET ACTUALITÉS EN CHIRURGIE VASCULAIRE
CONTROVERSIES & UPDATES IN VASCULAR SURGERY
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Failure of deep venous reconstructive surgery due to wrong strategy

Disclosure

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- ☐ I have the following potential conflicts of interest to report:
- ☐ Consulting
- ☐ Employment in industry
- ☐ Shareholder in a healthcare company
- ☐ Owner of a healthcare company
- ☐ Other(s)
- ☒ **I do not have any potential conflict of interest**

The success of DVRS is due to:

- Meticulous techniques

In:
- Reconstructing the valves
- Creating a new antireflux mechanism
- Treating an obstruction

Despite any accurate technique,
procedures can fail for wrong strategy:

In: - Treatment timing
- Choice of procedure
- Inadequacy of selected technique

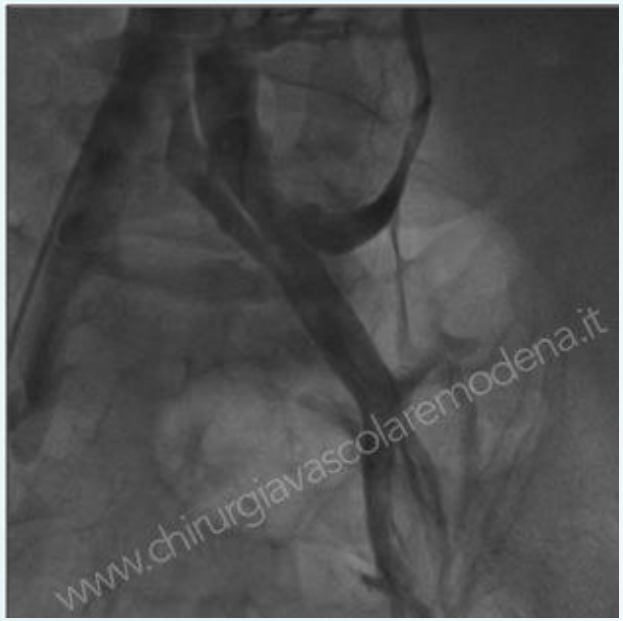
Any **wrong strategy** is usually **based on**:

- Insufficient preoperative diagnosis
- Wrong concepts in physical laws application

A wrong strategy is the main cause in DVRS failure

The **main error** in **treatment timing** is:

To focus the attention on reflux without treating the proximal obstruction before



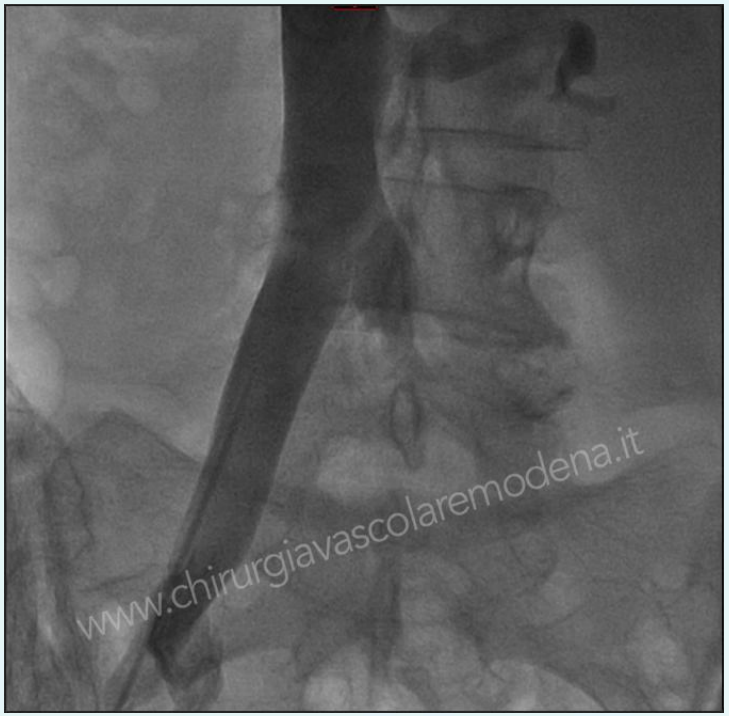
It is usually the consequence of:

- **Insufficient diagnosis**
  (inadequate diagnosis protocol)
- **Obstruction underevaluation**
- **Collateral pathways overestimation**

It is difficult to evaluate and correctly estimate the hemodynamic role of obstruction

The measurement of resistance according to Nicolaides method is limited to basic condition and not yet validated

Without abolishing proximal obstruction any kind of techniques *(valvuloplasty, neovalve, transposition etc.)* can fail



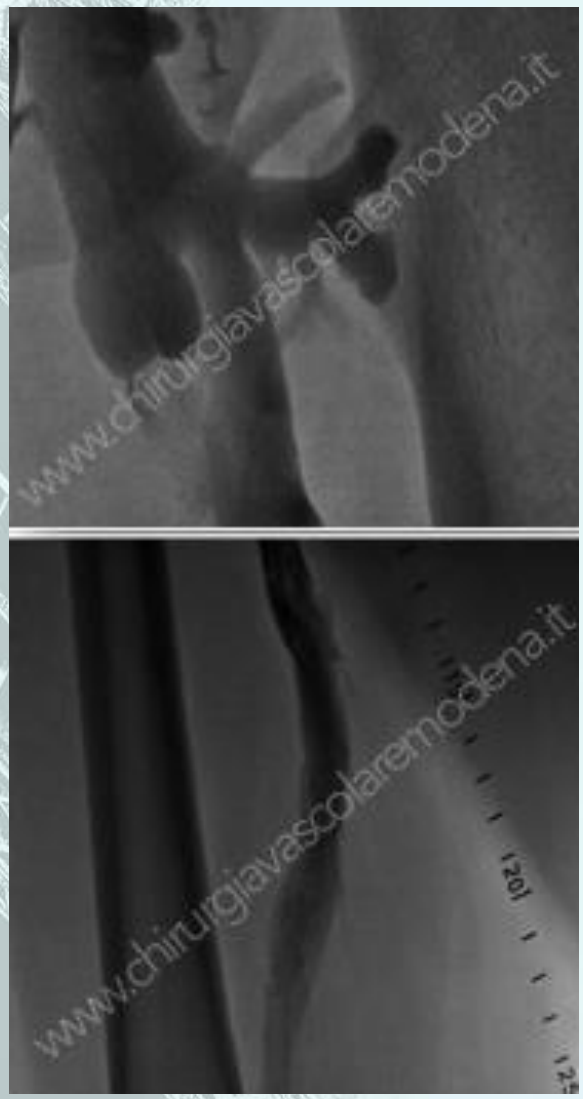
- The diagnostic protocol should identify any associated proximal obstruction

- Any obstruction > 50% should be treated first

HOWEVER :a big mistake should be to consider the treatment of obstruction as exhaustive

In more than 50% of the patients the treatment strategy involves the reflux correction

Wrong choice of procedure



- In primary incompetence

- In secondary incompetence

In primary incompetence

We should distinguish the following situations:

Valve incompetence

- with → Symmetrical cusps
- with → Asymmetrical cusps

- due to undetected DVT

Usually associated with superficial system insufficiency

→ **OVERLOAD**

A right strategy should plan:

- **Superficial ablation** in **symmetrical** incompetence as

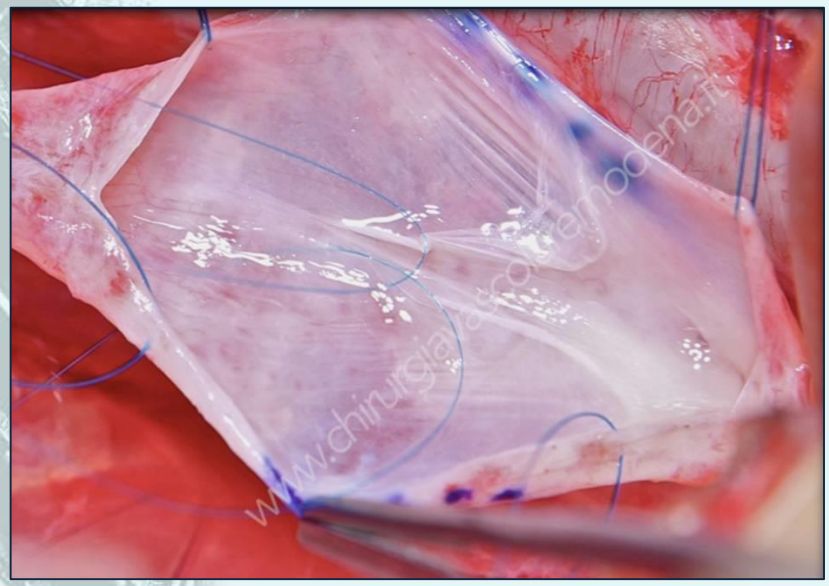
first treatment

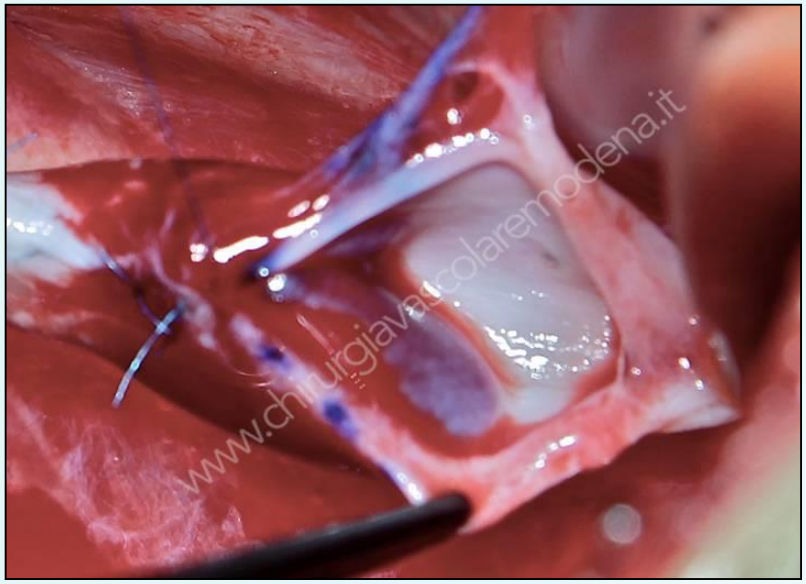
(the reduction of overload can restore the deep vein competence)

Maleti O, Lugli M, Perrin M. After superficial ablation for superficial reflux associated with primary deep axial reflux, can variable outcomes be caused by deep venous valve anomalies? Eur J Vasc Endovasc Surg 2016 [Article in Press]

- **Deep valvuloplasty** in **asymmetrical** incompetence

As first treatment





(the reduction of overload is not followed by restored deep vein competence)

Maleti O, Lugli M, Perrin M. After superficial ablation for superficial reflux associated with primary deep axial reflux, can variable outcomes be caused by deep venous valve anomalies? Eur J Vasc Endovasc Surg 2016 [Article in Press]

- **Deep valve reconstruction**

in **undetected DVT**

<u>As first treatment</u>

(but only after reducing superficial overload)

In secondary incompetence

Wrong choice of procedure:

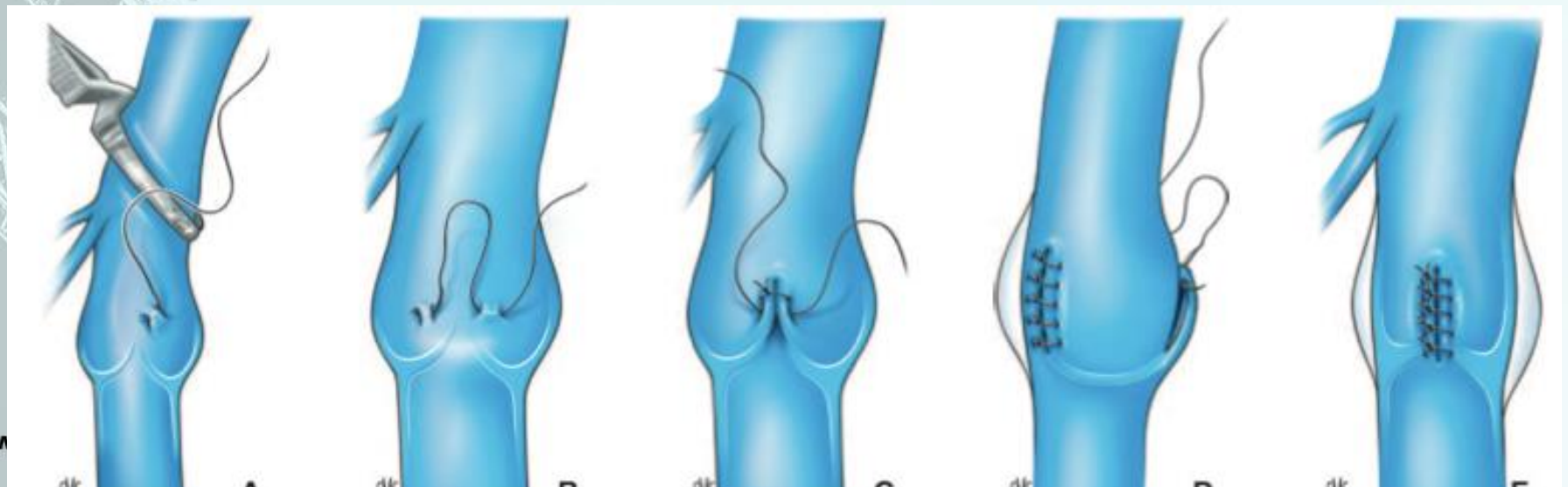
- To correct axial reflux if associated with parallel refluxes

- To correct the main axis already excluded by collateral pathways

- INADEQUACY of IMPLOYED TECNIQUES

In **primary incompetence** indequate techniques are nowadays considered **any technique leading to sinus shape modification**

- External valvuloplasty



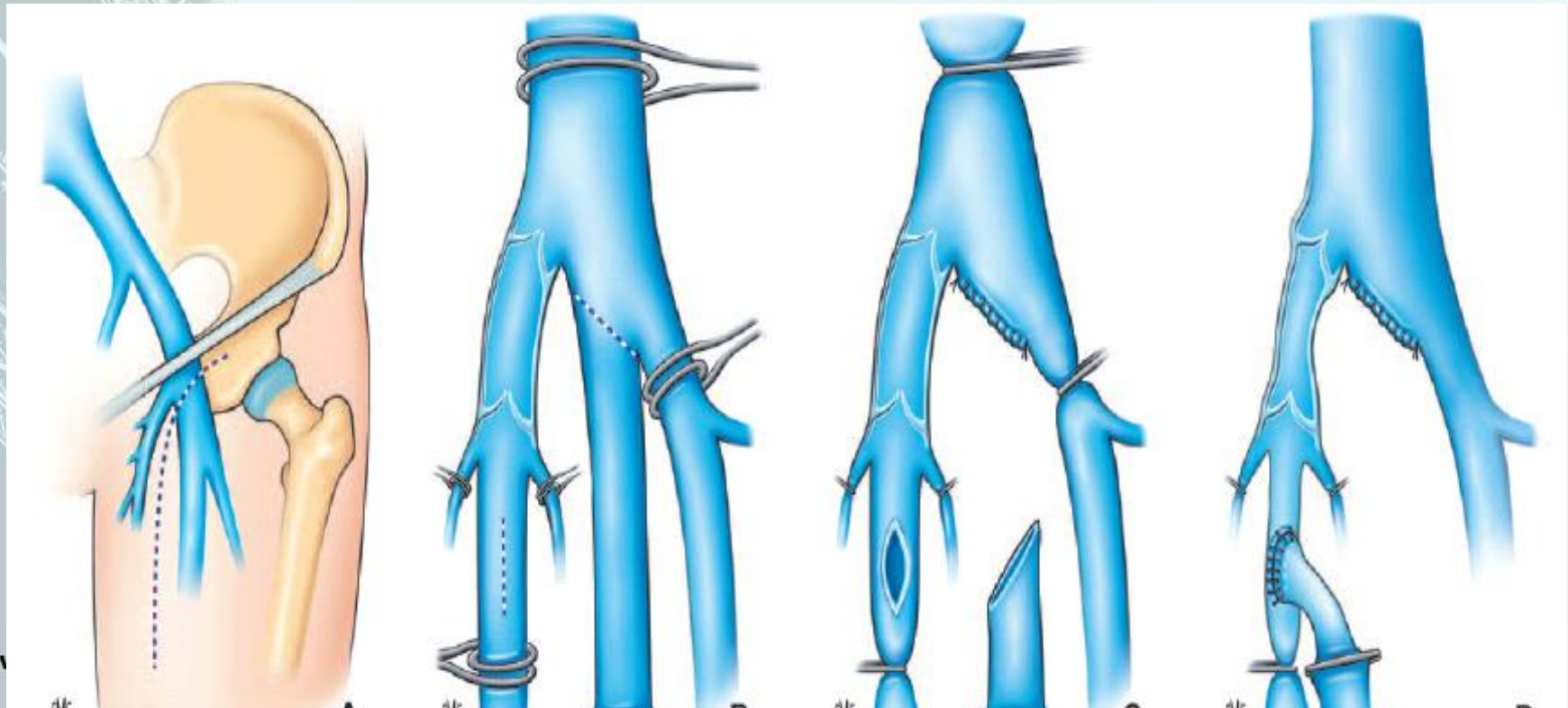
In Secondary incompetence, generally the main mistake in treating reflux is to ignore that the **principal role** of the deep veins is to **ensure an adequate flow**

This misleading is at the basis of operations technically well performed, but **hemodynamically inefficient**

- The **flow** is the fundamental parameter (more than reflux)

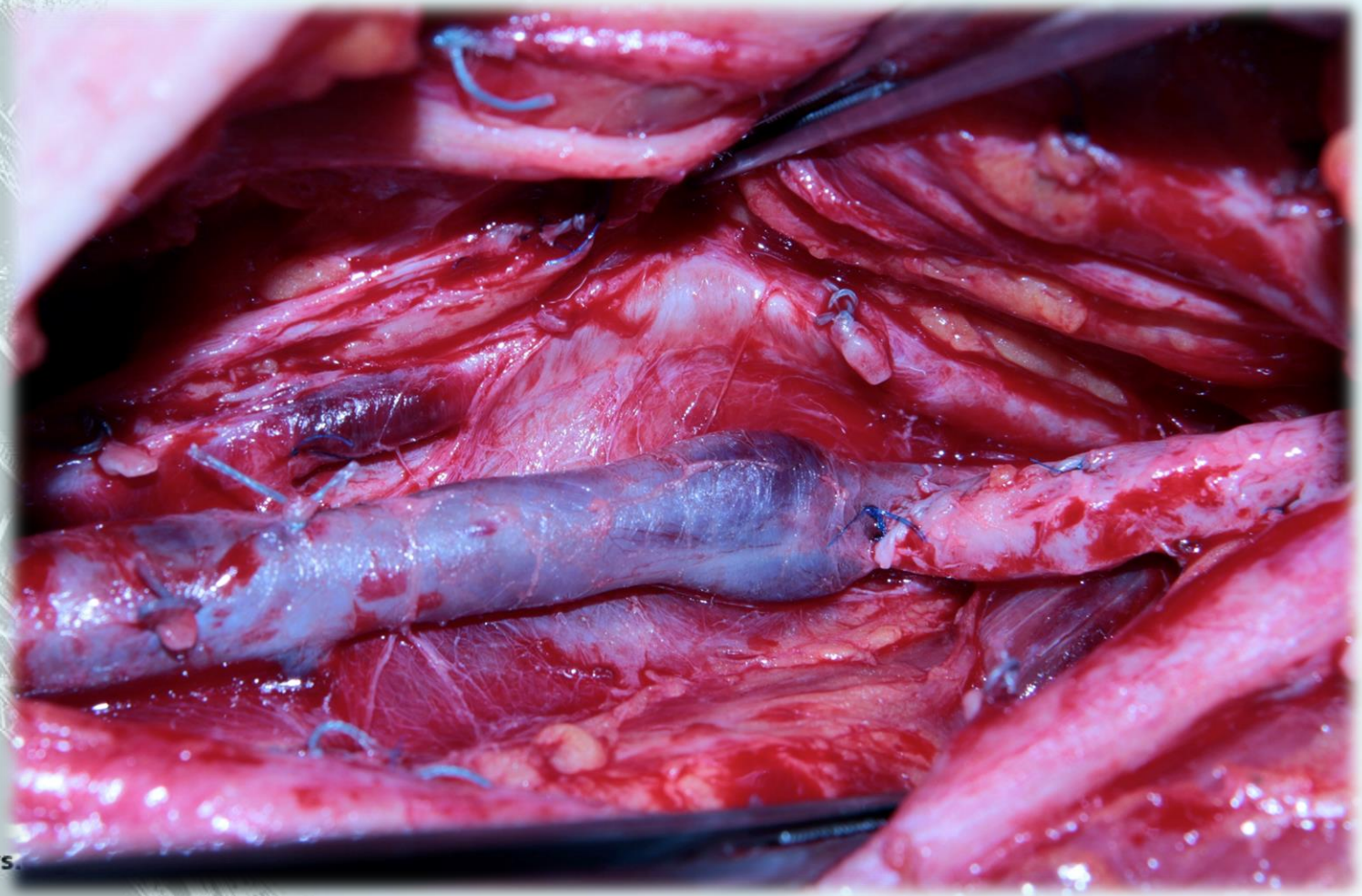
- Any action directed to reflux correction **shouldn’t reduce the normal flow**

By Performing a **transposition** according to classical technique, we **can provoke an early failure of valve competence**

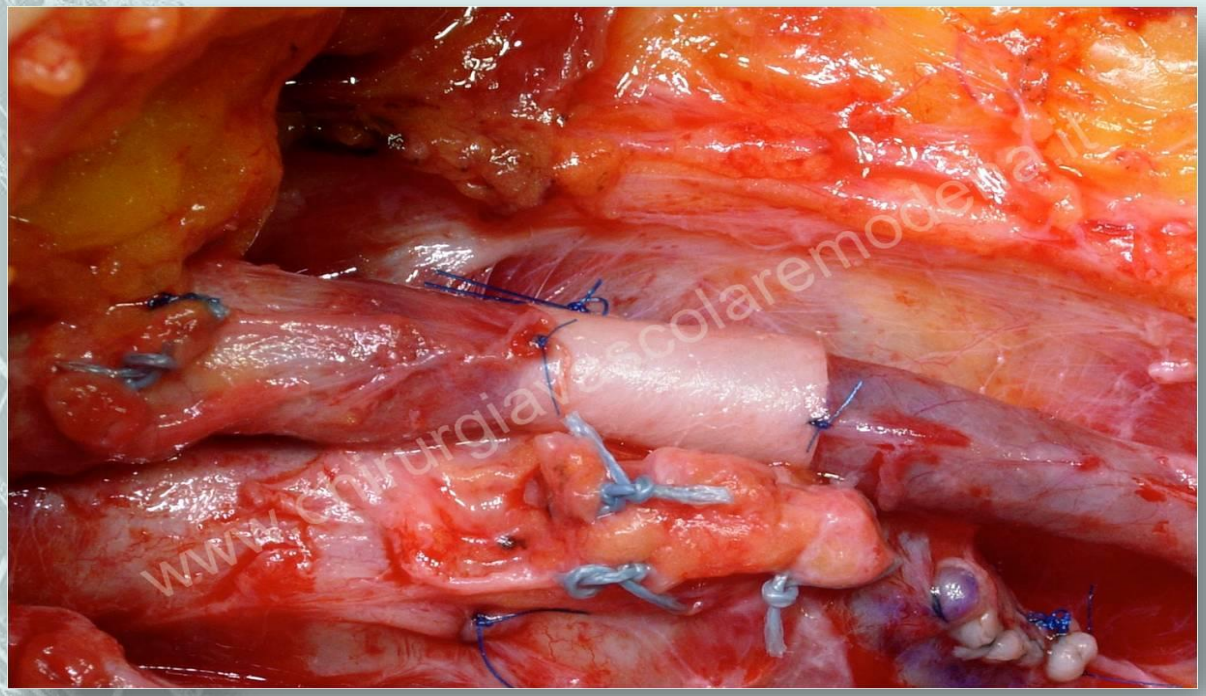


This new confluence has a reduced caliber so it will be submitted to dilatation and consequent valve incompetence

Conversely the end to end technique impeeds the reflux without overloading the trunk of profunda vein



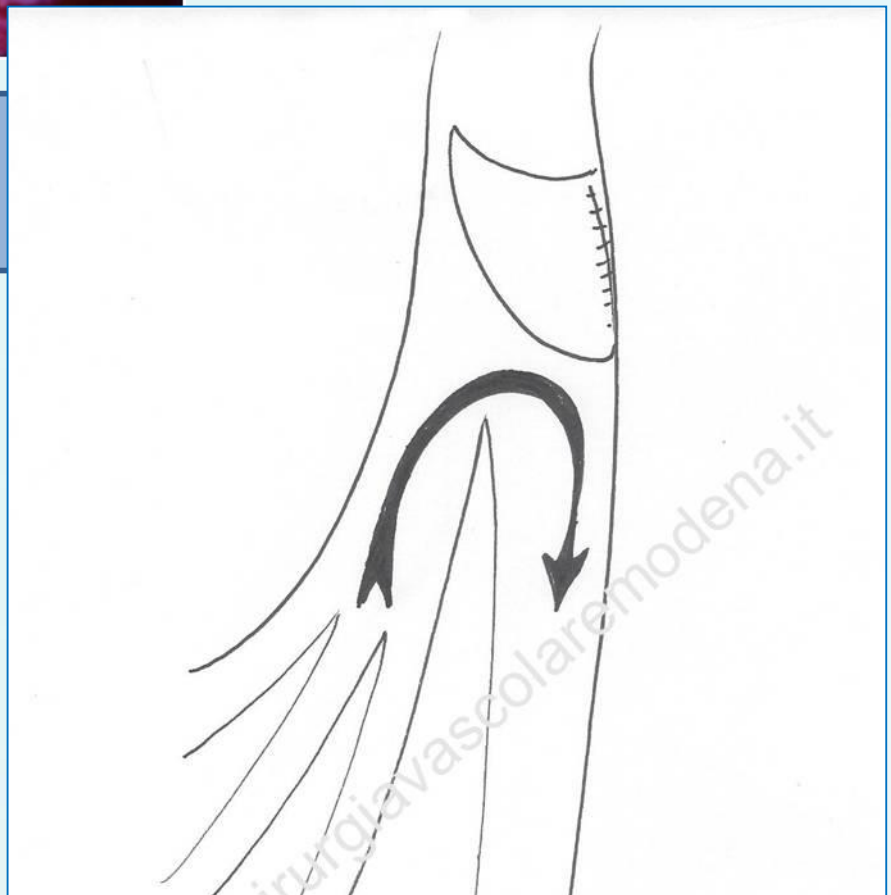
The application of **banding** in order to obtain a Venturi effect is correct only in vitro

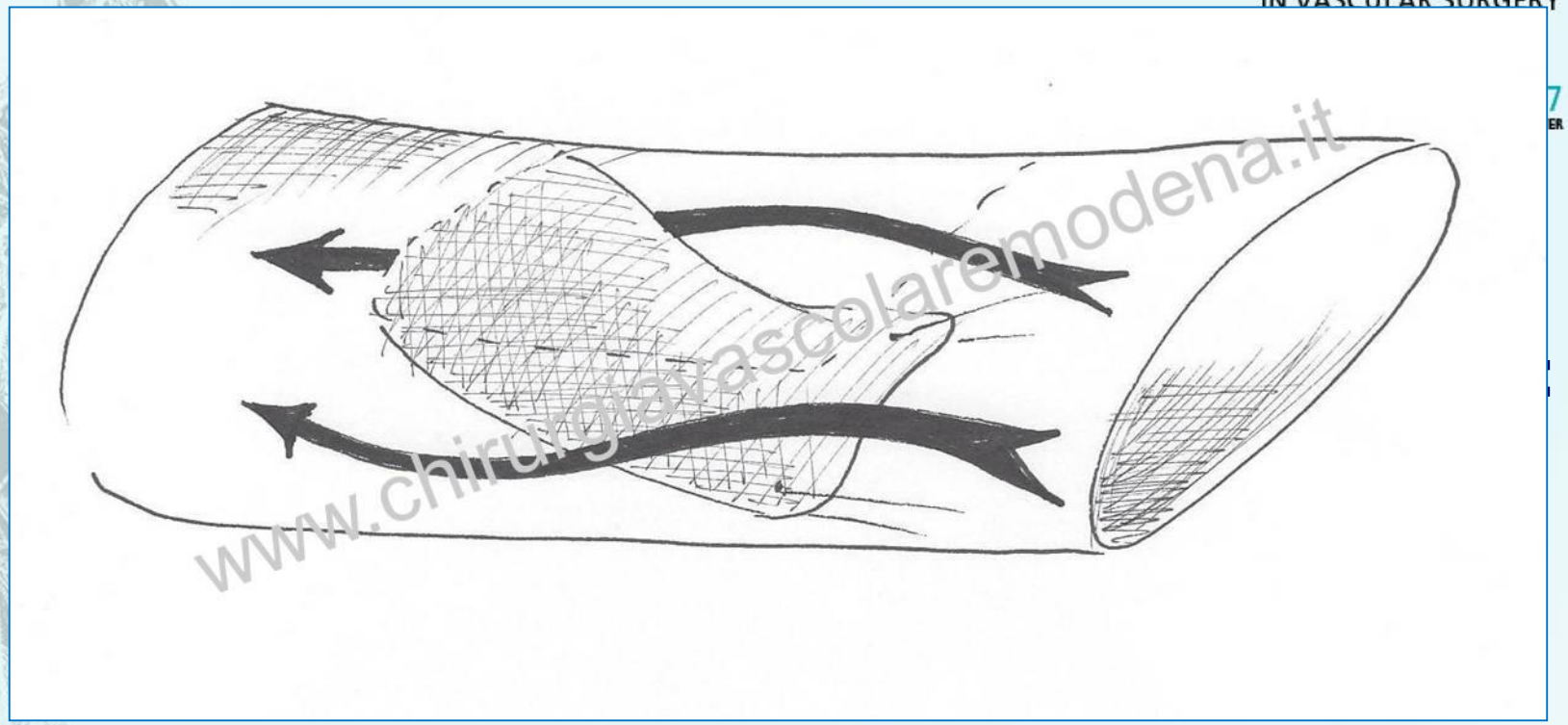


In the majority of cases we will obtain a development of incompetent collateral pathways

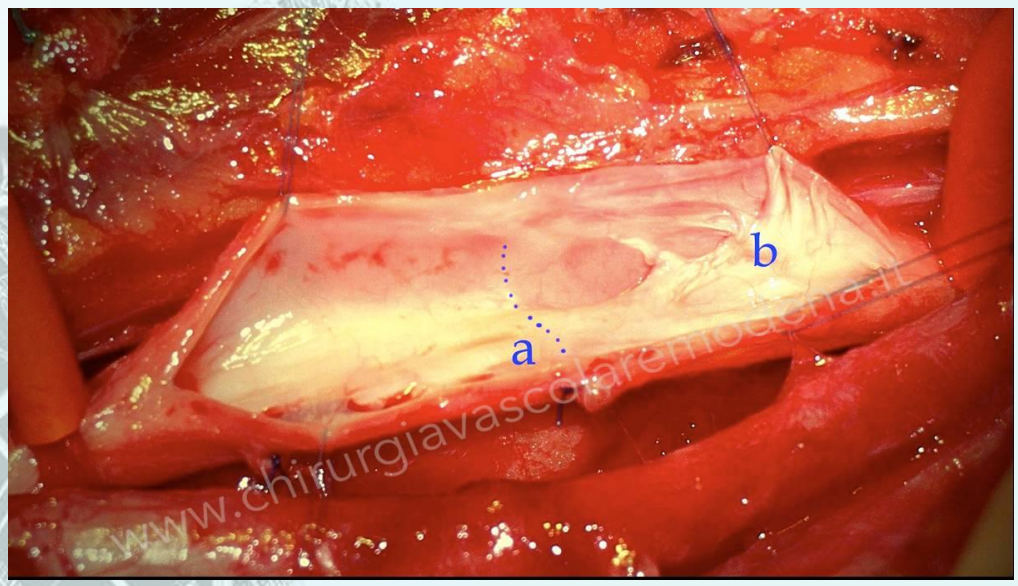
Errors in neovalve construction:

- Neovalve in CFV





Neovalve performed according to this technique allows reflux on both sides of the neovalve



Errors in endophlebectomy:

- Provide an adequate inflow by means of

  → Axial flow

  → Tributaries

The main strategy in treating DVR is to consider that the action is usually **limited to create one valve**

- Associated superficial reflux
- Stiff ankle
- Absence of daily deambulation

Can impede any perfect valve reconstruction

Thank you